

GSFC OPERATIONS CONTROL CENTER SATELLITE SITUATION REPORT

VOL. 7, NO. 4

FEBRUARY 28, 1967

GODDARD SPACE FLIGHT CENTER

GREENBELT, MD.

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GSFC OPERATIONS CONTROL CENTER
GODDARD SPACE FLIGHT CENTER 3
/ NATIONAL AERONAUTICS AND SPACE ADMINISTRATION

VOLUME 7, NO. 4 /

/ FEBRUARY 28, 1967 /

SATELLITE SITUATION REPORT,

THE FOLLOWING REPORT REFLECTS DATA COMPUTED AND COMPILED
BY THE GODDARD SPACE FLIGHT CENTER, NORAD, AND THE SMITHSONIAN
ASTROPHYSICAL OBSERVATORY AS OF 1200Z ON FEBRUARY 28, 1967

OBJECTS IN ORBIT

OBJECT	CODE NAME	CATALOGUE NUMBER	SOURCE	LAUNCH	PERIOD MINUTES	INCLI- NATION	APOGEE Km.	PERIGEE Km.	TRANSMITTING FREQ. (MC/S)
1958 LAUNCHES									
ALPHA 1	EXPLORER 1	004	US	1 FEB	102.7	33.19	1434	339	
BETA 1	ROCKET BODY	016	US	17 MAR	138.4	34.27	4316	651	
BETA 2	VANGUARD 1	005	US	17 MAR	133.9	34.24	3936	649	
BETA 3		1576	US	17 MAR	132.6	34.25	3826	644	
1959 LAUNCHES									
ALPHA 1	VANGUARD 2	011	US	17 FEB	125.4	32.88	3279	557	
ALPHA 2	ROCKET BODY	012	US	17 FEB	129.6	32.92	3649	559	
ETA 1	VANGUARD 3	020	US	18 SEP	129.7	33.34	3705	515	
MU 1	LUNIK 1	112	USSR	2 JAN	HELIOCENTRIC ORBIT				
NU 1	PIONEER 4	113	US	3 MAR	HELIOCENTRIC ORBIT				
IOTA 1	EXPLORER 7	022	US	13 DEC	101.1	50.31	1060	561	
IOTA 2	ROCKET BODY	023	US	13 DEC	100.8	50.32	1045	550	
1960 LAUNCHES									
ALPHA 1	PIONEER 5	027	US	11 MAR	HELIOCENTRIC ORBIT				
BETA 1	ROCKET BODY	028	US	1 APR	99.1	48.39	736	692	
BETA 2	TIROS 1	029	US	1 APR	99.2	48.39	743	694	
BETA 3	NONE	101	US	1 APR	97.8	48.51	695	613	
BETA 4	NONE	115	US	1 APR	99.9	48.16	805	698	
GAMMA 2	TRANSIT 1B	031	US	13 APR	92.5	51.23	468	324	
GAMMA 4	NONE	099	US	13 APR	96.6	51.27	713	478	
ZETA 1	MIDAS 2	043	US	24 MAY	94.2	33.10	486	466	
ETA 1	TRANSIT 2A	045	US	22 JUN	101.6	66.71	1060	611	
ETA 2	GREB	046	US	22 JUN	101.6	66.71	1056	611	
ETA 3	ROCKET BODY	047	US	22 JUN	101.4	66.68	1037	611	
ETA 4		840	US	22 JUN	101.5	66.70	1050	610	
ETA 5		841	US	22 JUN	101.5	66.71	1045	611	

OBJECTS IN ORBIT

<u>OBJECT</u>	<u>CODE NAME</u>	<u>CATALOGUE NUMBER</u>	<u>SOURCE</u>	<u>LAUNCH</u>	<u>PERIOD MINUTES</u>	<u>INCLI- NATION</u>	<u>APOGEE Km.</u>	<u>PERIGEE Km.</u>	<u>TRANSMITTING FREQ. (MC/S)</u>
1960 LAUNCHES (CONT'D)									
IOTA 1	ECHO 1	049	US	12 AUG	111.4	47.28	1712	862	
IOTA 2	ROCKET BODY	050	US	12 AUG	118.1	47.23	1685	1502	
IOTA 3	METAL OBJECT	051	US	12 AUG	118.2	47.21	1687	1516	
IOTA 4	METAL OBJECT	052	US	12 AUG	CURRENT ELEMENTS NOT MAINTAINED				
IOTA 5	METAL OBJECT	053	US	12 AUG	118.4	47.27	1688	1532	
NU 1	COURIER 1B	058	US	4 OCT	107.0	28.32	1212	963	
NU 2	ROCKET BODY	059	US	4 OCT	106.6	28.25	1210	921	
XI 1	EXPLORER 8	060	US	3 NOV	112.1	49.94	2226	418	
XI 2	ROCKET BODY	062	US	3 NOV	111.4	49.93	2165	418	
XI 3	NONE	069	US	3 NOV	107.1	49.41	1780	398	
XI 4	NONE	105	US	3 NOV	109.1	50.51	1947	419	
PI 1	TIROS 2	063	US	23 NOV	98.2	48.51	728	618	
PI 2	ROCKET BODY	064	US	23 NOV	98.0	48.53	718	610	
PI 3	NONE	074	US	23 NOV	98.1	48.52	717	618	
PI 4	NONE	075	US	23 NOV	98.3	48.52	730	619	
1961 LAUNCHES									
ALPHA 1	SAMOS 2	070	US	31 JAN	94.6	97.34	535	463	
ALPHA 2	METAL OBJECT	079	US	31 JAN	94.4	97.36	526	457	
GAMMA 1	VENUS PROBE	080	USSR	12 FEB	HELIOCENTRIC ORBIT				
DELTA 2	ROCKET BODY	082	US	16 FEB	118.5	38.85	2590	635	
DELTA 3	NONE	085	US	16 FEB	CURRENT ELEMENTS NOT MAINTAINED				
KAPPA 1	EXPLORER 10	098	US	25 MAR	POSITION UNCERTAIN				
NU 1	EXPLORER 11	107	US	27 APR	107.9	28.80	1768	485	
OMICRON 1	TRANSIT 4A	116	US	29 JUN	103.8	66.81	1001	878	
OMICRON 2	INJUN-SR-3	117	US	29 JUN	103.8	66.82	1001	879	
OMICRON 3-212**	METAL OBJECTS		US	29 JUN					
RHO 1	TIROS 3	162	US	12 JUL	100.4	47.90	814	739	
RHO 2	ROCKET BODY	165	US	12 JUL	100.3	47.90	807	738	

\$54\$324\$150\$400

OBJECTS IN ORBIT

OBJECT	CODE NAME	CATALOGUE NUMBER	SOURCE	LAUNCH	PERIOD MINUTES	INCLI- NATION	APOGEE		PERIGEE		TRANSMITTING FREQ. (MC/S)
							Km.	Km.	Km.	Km.	

1961 LAUNCHES (CONT'D)

RHO 3	METAL OBJECT	166	US	12 JUL	98.8	47.95	792		610		
RHO 4	METAL OBJECT	167	US	12 JUL	102.0	47.85	931		774		
SIGMA 1	MIDAS 3	163	US	12 JUL	161.5	91.25	3547		3344		
SIGMA 3	METAL OBJECT	188	US	12 JUL	161.1	91.20	3539		3325		
SIGMA 4	METAL OBJECT	196	US	12 JUL	161.9	91.21	3565		3359		
UPSILON 1	EXPLORER 12	170	US	16 AUG	CURRENT ELEMENTS NOT MAINTAINED						
A DELTA 1	MIDAS 4	192	US	21 OCT	166.0	95.85	3750		3503		
A DELTA 3	METAL OBJECT	194	US	21 OCT	165.6	95.86	3736		3485		
A DELTA 4	METAL OBJECT	195	US	21 OCT	166.4	95.88	3803		3484		
A DELTA 5		2009	US	21 OCT	165.7	95.85	3731		3502		
A DELTA 6		2371	US	21 OCT	165.7	95.85	3965		3265		
A ETA 1	TRANSIT 4B	202	US	15 NOV	105.8	32.45	1106		953		
A ETA 2	TRAAC	205	US	15 NOV	105.8	32.44	1108		952		
A ETA 3	ROCKET BODY	204	US	15 NOV	105.6	32.44	1096		949		

1962 LAUNCHES

ALPHA 1	RANGER 3	221	US	26 JAN	HELIOCENTRIC ORBIT						
ALPHA 2	ROCKET BODY	222	US	26 JAN	HELIOCENTRIC ORBIT						
BETA 1	TIROS 4	226	US	8 FEB	100.4	48.30	841		709		
BETA 2	ROCKET BODY	227	US	8 FEB	101.3	48.15	942		702		
BETA 3	METAL OBJECT	228	US	8 FEB	99.4	48.42	760		703		
BETA 4		229	US	8 FEB	100.3	48.30	834		707		
ZETA 1	ORB. SOL. OBS. 1	255	US	7 MAR	96.0	32.84	583		545		
ZETA 2	ROCKET BODY	257	US	7 MAR	95.8	32.84	572		538		
KAPPA 1		271	US	9 APR	153.0	86.66	3413		2784		
KAPPA 3		273	US	9 APR	152.6	86.66	3379		2786		
KAPPA 4		274	US	9 APR	153.3	86.65	3432		2793		
NU 2	ROCKET BODY	282	US	23 APR	HELIOCENTRIC ORBIT						
OMICRON 1	ARIEL	285	US/UK	26 APR	100.0	53.87	1129		386		
OMICRON 2	ROCKET BODY	288	US	26 APR	99.7	53.85	1099		387		

OBJECTS IN ORBIT

OBJECT	CODE NAME	CATALOGUE NUMBER	SOURCE	LAUNCH	PERIOD MINUTES	INCLI- NATION	APOGEE Km.	PERIGEE Km.	TRANSMITTING FREQ. (MC/S)	
1962 LAUNCHES (CONT'D)										
A ALPHA 1	TIROS 5	309	US	19 JUN	100.5	58.10	970	591	\$136.591\$136.078	
A ALPHA 2	ROCKET BODY	311	US	19 JUN	100.3	58.10	957	591		
A ALPHA 3	METAL OBJECT	312	US	19 JUN	101.7	58.21	1085	595		
A ALPHA 4	METAL OBJECT	313	US	19 JUN	99.0	58.01	845	582		
A EPSILON 1	TELSTAR 1	340	US	10 JUL	157.8	44.82	5644	943		
A EPSILON 2	ROCKET BODY	341	US	10 JUL	157.6	44.82	5630	944		
A OMICRON 1		369	US	23 AUG	99.5	98.68	855	628		
A OMICRON 2		370	US	23 AUG	98.1	98.55	741	601		
A OMICRON 3		378	US	23 AUG	100.7	98.80	970	619		
A OMICRON 4		388	US	23 AUG	99.5	98.67	852	617		
A RHO 1	MARINER 2	374	US	27 AUG	HELIOCENTRIC ORBIT					
A RHO 2	ROCKET BODY	375	US	27 AUG	HELIOCENTRIC ORBIT					
A PSI 1	TIROS 6	397	US	18 SEP	98.7	58.33	713	682		
A PSI 2	ROCKET BODY	398	US	18 SEP	98.6	58.32	707	678		
A PSI 3	METAL OBJECT	399	US	18 SEP	99.4	58.42	764	692		
A PSI 4	METAL OBJECT	400	US	18 SEP	98.0	58.20	684	641		
B ALPHA 1	ALOUETTE 1	424	CANADA	29 SEP	105.5	80.46	1035	1000		
B ALPHA 2	ROCKET BODY	426	US	29 SEP	105.4	80.47	1029	1001		
B ALPHA 3	METAL OBJECT	510	US	29 SEP	105.4	80.50	1020	1004		
B ALPHA 4	METAL OBJECT	511	US	29 SEP	105.5	80.42	1040	995		
B GAMMA 1	EXPLORER 14	432	US	2 OCT	CURRENT ELEMENTS NOT MAINTAINED					
B GAMMA 2#	ROCKET BODY	NNA	US	2 OCT	CURRENT ELEMENTS NOT MAINTAINED					
B ETA 1	RANGER 5	439	US	18 OCT	HELIOCENTRIC ORBIT					
B ETA 2	ROCKET BODY	440	US	18 OCT	HELIOCENTRIC ORBIT					
B KAPPA 1		444	US	26 OCT	108.4	71.32	2109	190		
B LAMBDA 1	EXPLORER 15	445	US	27 OCT	CURRENT ELEMENTS NOT MAINTAINED					
B LAMBDA 2#	ROCKET BODY	NNA	US	27 OCT	INSUFFICIENT OBSERVATIONS					
B MU 1	ANNA 1B	446	US	31 OCT	107.9	50.14	1184	1075	\$162\$324	
B MU 2	ROCKET BODY	447	US	31 OCT	107.6	50.20	1162	1071		
B NU 3		450	USSR	1 NOV	HELIOCENTRIC ORBIT					

OBJECTS IN ORBIT

<u>OBJECT</u>	<u>CODE NAME</u>	<u>CATALOGUE NUMBER</u>	<u>SOURCE</u>	<u>LAUNCH</u>	<u>PERIOD MINUTES</u>	<u>INCLI- NATION</u>	<u>APOGEE Km.</u>	<u>PERIGEE Km.</u>	<u>TRANSMITTING FREQ. (MC/S)</u>
1962 LAUNCHES (CONT'D)									
B TAU 2	INJUN 3	504	US	13 DEC	105.2	70.34	1777	225	\$136.140;136.621
B TAU 6		520	US	13 DEC	103.2	70.29	1581	229	
B UPSILON 1	RELAY	503	US	13 DEC	185.1	47.53	7429	1328	
B UPSILON 2	ROCKET BODY	515	US	13 DEC	184.8	47.53	7413	1328	
B CHI 1	EXPLORER 16	506	US	16 DEC	104.4	52.01	1177	751	
B PSI 1	TRANSIT 5A	509	US	19 DEC	99.0	90.67	730	697	
B PSI 2		514	US	19 DEC	97.3	90.75	704	559	
B PSI 3		519	US	19 DEC	99.0	90.68	731	695	
B PSI 4		523	US	19 DEC	100.1	90.52	830	699	

1963 LAUNCHES

1963 03A		527	US	16 JAN	94.1	81.91	498	451
1963 04A	SYNCOM 1	553	US	14 FEB	CURRENT ELEMENTS NOT MAINTAINED			
1963 04B	ROCKET BODY	532	US	14 FEB	CURRENT ELEMENTS NOT MAINTAINED			
1963 05A		534	US	19 FEB	97.6	100.44	794	498
1963 05B		533	US	19 FEB	97.5	100.46	786	500
1963 05C		535	US	19 FEB	96.4	100.44	712	466
1963 05D		536	US	19 FEB	98.2	100.47	822	521
1963 08B		566	USSR	2 APR	BARYCENTRIC ORBIT			
1963 13A	TELSTAR 2	573	US	7 MAY	225.3	42.72	10803	969
1963 13B	ROCKET BODY	575	US	7 MAY	225.1	42.72	10784	971
1963 14A		574	US	9 MAY	166.4	87.60	3677	3614
1963 14B		579	US	9 MAY	166.3	87.21	4425	2858
1963 14C		608	US	9 MAY	166.4	87.31	3722	3569
1963 14D		589	US	9 MAY	166.4	87.32	3719	3571
1963 14E		602	US	9 MAY	166.1	87.32	3668	3594
1963 14F		628	US	9 MAY	166.8	87.31	3671	3651
1963 14G		629	US	9 MAY	166.4	87.36	3749	3540

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1963 LAUNCHES (CONT'D)									
1963 14H		702	US	9 MAY	166.4	87.31	3701	3589	
1963 14J		2359	US	9 MAY	166.4	87.30	3896	3394	
1963 14K		2360	US	9 MAY	165.7	86.91	5069	2163	
1963 14L		2361	US	9 MAY	166.4	87.29	3928	3359	
1963 14M		2362	US	9 MAY	166.1	87.10	4626	2639	
1963 14N		2363	US	9 MAY	166.0	87.03	4739	2514	
1963 14P		2364	US	9 MAY	166.4	87.27	4100	3186	
1963 14Q		2365	US	9 MAY	166.4	87.24	4203	3083	
1963 14R		2366	US	9 MAY	165.9	87.00	4935	2213	
1963 14S		2367	US	9 MAY	165.8	86.91	4853	2488	
1963 14T		2372	US	9 MAY	166.4	87.29	4055	3233	
1963 14U		2373	US	9 MAY	165.8	87.38	4802	2440	
1963 14V		2374	US	9 MAY	165.9	87.02	4858	2388	
1963 14W		2375	US	9 MAY	166.0	87.11	4643	2616	
1963 14X		2377	US	9 MAY	166.3	87.23	4315	2964	
1963 14Y		2378	US	9 MAY	166.3	87.26	4130	3153	
1963 14Z		2379	US	9 MAY	166.1	87.14	4574	2688	
1963 14AA		2380	US	9 MAY	166.2	87.19	4458	2811	
1963 14AB		2381	US	9 MAY	166.3	87.24	4230	3052	
1963 14AC		2431	US	9 MAY	166.3	87.23	4342	2938	
1963 14AD		2496	US	9 MAY	165.7	86.89	5033	2199	
1963 14AE		2497	US	9 MAY	165.2	86.09	5252	1927	
1963 14AF		2499	US	9 MAY	165.3	86.67	5295	1904	
1963 14AG		2500	US	9 MAY	164.9	86.43	5522	1649	
1963 14AH		2522	US	9 MAY	165.6	86.78	4947	2269	
1963 14AJ		2530	US	9 MAY	166.3	87.25	4237	3045	
1963 14AK		2531	US	9 MAY	166.4	87.30	3663	3629	
1963 14AL		2532	US	9 MAY	166.3	87.23	4271	3006	
1963 14AM		2533	US	9 MAY	166.1	87.04	4754	2504	
1963 14AN		2638	US	9 MAY	166.4	87.30	3822	3467	
1963 22A		594	US	16 JUN	99.6	89.98	754	732	
									\$150 \$400

OBJECTS IN ORBIT

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1963 LAUNCHES (CONT'D)									
1963 22B		603	US	16 JUN	99.7	89.98	756	731	
1963 22C		610	US	16 JUN	101.2	90.21	889	741	
1963 22D		611	US	16 JUN	97.9	89.80	756	563	
1963 24A	TIROS 7	604	US	19 JUN	97.4	58.24	648	620	\$136.233\$136.924
1963 24B	ROCKET BODY	605	US	19 JUN	97.2	58.24	639	614	
1963 24C	METAL OBJECT	606	US	19 JUN	97.8	58.36	675	635	
1963 24D	METAL OBJECT	607	US	19 JUN	96.8	58.11	640	571	
1963 25B		614	US	27 JUN	131.7	82.15	4051	341	
1963 26A	RESEARCH	612	US	28 JUN	101.8	49.73	1277	413	
	SATELLITE FOR								
	GEOPHYSICS								
1963 27A		613	US	29 JUN	94.4	82.33	512	470	
1963 30A		622	US	18 JUL	167.8	88.42	3736	3669	
1963 30B		635	US	18 JUL	167.8	88.42	3740	3665	
1963 30C		630	US	18 JUL	167.5	88.41	3730	3646	
1963 30D		624	US	18 JUL	167.1	87.52	4831	2513	
1963 30E		631	US	18 JUL	168.3	88.42	3794	3645	
1963 31A	SYNCOM 2	634	US	26 JUL	1436.4	30.65	35824	35761	\$136.467\$136.980 \$1814.069 \$1815.794 \$1820.177
1963 31B	ROCKET BODY	625	US	26 JUL	CURRENT ELEMENTS	NOT MAINTAINED			
1963 38A		669	US	28 SEP	107.1	89.91	1113	1073	
1963 38B		670	US	28 SEP	107.3	89.90	1139	1072	
1963 38C		671	US	28 SEP	107.3	89.91	1137	1072	
1963 38D		672	US	28 SEP	107.3	89.90	1133	1073	
1963 38E		745	US	28 SEP	107.1	89.91	1112	1073	
1963 38F		2097	US	28 SEP	107.3	89.89	1133	1073	
1963 39A		674	US	17 OCT	6484.0	37.37	119506	98105	
1963 39B		675	US	17 OCT	CURRENT ELEMENTS	NOT MAINTAINED			
1963 39C		692	US	17 OCT	6517.2	36.40	115902	102495	\$136.653\$162\$324
1963 43A	POLYOT 1	683	USSR	1 NOV	102.0	58.92	1361	343	

OBJECTS IN ORBIT

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1963 LAUNCHES (CONT'D)									
1963 46A	EXPLORER 18	693	US	27 NOV	CURRENT	ELEMENTS	NOT MAINTAINED		
1963 47A	CENTAUR 2	694	US	27 NOV	107.7	30.37	1764	477	
1963 47B		696	US	27 NOV	107.1	30.07	1605	577	
1963 47C		697	US	27 NOV	107.3	30.07	1621	577	
1963 47D		698	US	27 NOV	108.0	29.94	1654	611	
1963 47E		699	US	27 NOV	108.5	30.46	1732	576	
1963 47F		700	US	27 NOV	108.6	30.47	1749	575	
1963 47G		701	US	27 NOV	107.8	30.02	1640	606	
1963 47H		739	US	27 NOV	105.9	30.44	1580	488	
1963 47J		1994	US	27 NOV	108.7	30.53	1754	572	
1963 49A		703	US	5 DEC	106.8	89.94	1090	1069	
1963 49B		704	US	5 DEC	107.1	89.92	1123	1066	
1963 49C		705	US	5 DEC	107.1	89.94	1118	1070	
1963 49D		706	US	5 DEC	107.0	89.94	1117	1065	
1963 49E		715	US	5 DEC	107.1	89.93	1121	1063	
1963 49F		753	US	5 DEC	107.1	89.93	1122	1066	
1963 49G		2432	US	5 DEC	107.1	89.94	1118	1072	
1963 49H		2620	US	5 DEC	106.8	89.94	1094	1065	
1963 53A	EXPLORER 19	714	US	19 DEC	114.5	78.72	2164	699	
1963 53B		721	US	19 DEC	115.8	78.61	2397	592	
1963 53C		722	US	19 DEC	115.7	78.64	2367	614	
1963 53D		723	US	19 DEC	115.7	78.67	2382	598	
1963 53E		724	US	19 DEC	115.8	78.68	2382	604	
1963 53F		725	US	19 DEC	115.6	78.70	2384	586	
1963 53G		726	US	19 DEC	115.6	78.63	2364	607	
1963 53H		732	US	19 DEC	115.7	78.65	2351	624	
1963 54A	TIROS 8	716	US	21 DEC	99.3	58.48	756	699	
1963 54B		717	US	21 DEC	99.3	58.52	749	697	
1963 54C		720	US	21 DEC	101.1	58.48	923	694	
1963 54D		736	US	21 DEC	97.6	58.52	703	586	
									\$136.231\$136.924
									\$150 \$400

OBJECTS IN ORBIT

<u>OBJECT</u>	<u>CODE NAME</u>	<u>CATALOGUE NUMBER</u>	<u>SOURCE</u>	<u>LAUNCH</u>	<u>PERIOD MINUTES</u>	<u>INCLI- NATION</u>	<u>APOGEE Km.</u>	<u>PERIGEE Km.</u>	<u>TRANSMITTING FREQ. (MC/S)</u>
1964 LAUNCHES									
1964 01A		727	US	11 JAN	103.4	69.94	966	879	
1964 01B	GGSE	728	US	11 JAN	103.4	69.90	932	912	
1964 01C	EGRS 1	729	US	11 JAN	103.4	69.87	933	911	
1964 01D	SOLAR RAD.	730	US	11 JAN	103.4	69.90	932	913	
1964 01E		731	US	11 JAN	103.5	69.90	932	913	
1964 02A		733	US	19 JAN	101.3	99.15	849	791	
1964 02B		734	US	19 JAN	101.3	99.15	832	807	
1964 02C		735	US	19 JAN	101.3	99.16	835	808	
1964 03A	RELAY 2	737	US	21 JAN	194.7	46.34	7425	2074	136.620\$136.142
1964 03B		738	US	21 JAN	194.8	46.34	7434	2071	
1964 04A	ECHO 2	740	US	25 JAN	107.1	81.50	1230	957	
1964 04B		741	US	25 JAN	108.9	81.50	1308	1048	
1964 04C		742	US	25 JAN	108.8	81.47	1305	1043	
1964 04D		743	US	25 JAN	108.8	81.52	1308	1040	
1964 06A	ELEKTRON 1	746	USSR	30 JAN	169.1	60.90	7092	414	
1964 06B	ELEKTRON 2	748	USSR	30 JAN	1356.4	58.20	65638	2787	
1964 06C		750	USSR	30 JAN	167.4	60.91	6956	411	
1964 06D		751	USSR	30 JAN	1384.1	58.37	66602	2922	
1964 11A		759	US	28 FEB	94.3	82.08	490	478	
1964 11D		2663	US	28 FEB	91.6	82.04	356	356	
1964 15A		771	US/UK	27 MAR	96.4	51.65	888	278	
1964 15B		775	US	27 MAR	93.2	51.68	591	267	
1964 15C		847	US	27 MAR	101.2	51.36	1252	365	
1964 16D		785	USSR	2 APR	HELIOCENTRIC ORBIT				
1964 26A		801	US	4 JUN	103.1	90.52	948	861	\$150 \$400
1964 26B		805	US	4 JUN	103.8	90.18	982	899	
1964 26C		806	US	4 JUN	102.2	90.83	946	787	
1964 26D		809	US	4 JUN	103.1	90.52	950	860	
1964 31A		812	US	18 JUN	101.6	99.83	840	829	
1964 31B		813	US	18 JUN	101.6	99.83	840	830	
1964 31C		815	US	18 JUN	101.6	99.86	845	822	

OBJECTS IN ORBIT

<u>OBJECT</u>	<u>CODE NAME</u>	<u>CATALOGUE NUMBER</u>	<u>SOURCE</u>	<u>LAUNCH</u>	<u>PERIOD MINUTES</u>	<u>INCLI- NATION</u>	<u>APOGEE Km.</u>	<u>PERIGEE Km.</u>	<u>TRANSMITTING FREQ. (MC/S)</u>
1964 LAUNCHES (CONT'D)									
1964 35A		824	US	2 JUL	94.6	82.09	513	485	
1964 38A	ELECKTRON 3	829	USSR	10 JUL	168.0	60.87	7002	411	
1964 38B	ELECKTRON 4	830	USSR	10 JUL	1311.7	58.76	64789	1687	
1964 38C		831	USSR	10 JUL	167.9	60.90	6992	415	
1964 38D		832	USSR	10 JUL	1323.4	58.91	59864	1685	
1964 40A		836	US	17 JUL	6024.4	38.47	103984	102606	
1964 40B		837	US	17 JUL	6003.9	40.03	119259	86835	
1964 40C		838	US	17 JUL	CURRENT ELEMENTS NOT MAINTAINED				
1964 41B		843	US	28 JUL	BARYCENTRIC ORBIT				
1964 45B		851	US	14 AUG	124.2	95.65	3467	273	\$136.470\$136.980
1964 47A	SYNCOM 3	858	US	19 AUG	1436.3	2.37	35842	35737	\$1820.177
									\$1815.794
									\$1814.931
1964 47B		862	US	19 AUG	CURRENT ELEMENTS NOT MAINTAINED				
1964 49D	COSMOS 41	869	USSR	22 AUG	713.0	69.05	37523	2585	
1964 49E		898	USSR	22 AUG	719.2	68.18	39362	1064	
1964 51A	EXPLORER 20	870	US	25 AUG	103.9	79.90	1022	867	
1964 51B		871	US	25 AUG	103.8	79.91	1017	866	
1964 51C		873	US	25 AUG	102.4	79.81	928	818	
1964 51D		874	US	25 AUG	102.6	79.81	980	781	
1964 51E		875	US	25 AUG	102.7	79.82	989	781	
1964 52A	NIMBUS 1	872	US	28 AUG	98.0	98.77	894	431	
1964 52B		878	US	28 AUG	98.0	98.74	905	428	
1964 53A	COSMOS 44	876	USSR	28 AUG	99.5	65.03	853	617	
1964 53B		877	USSR	28 AUG	99.6	65.08	787	691	
1964 54A	OGO 1	879	US	5 SEP	3842.1	49.03	137681	12082	\$136.200\$400.250
									\$400.850
1964 60A	EXPLORER 21	889	US	4 OCT	CURRENT ELEMENTS NOT MAINTAINED				
1964 63A		893	US	6 OCT	106.3	89.89	1080	1035	\$150 \$400

OBJECTS IN ORBIT

<u>OBJECT</u>	<u>CODE NAME</u>	<u>CATALOGUE NUMBER</u>	<u>SOURCE</u>	<u>LAUNCH</u>	<u>PERIOD MINUTES</u>	<u>INCLI- NATION</u>	<u>APOGEE Km.</u>	<u>PERIGEE Km.</u>	<u>TRANSMITTING FREQ. (MC/S)</u>
1964 LAUNCHES (CONT'D)									
1964 63B		897	US	6 OCT	106.6	89.89	1085	1055	
1964 63C		900	US	6 OCT	106.5	89.88	1086	1050	
1964 63D		901	US	6 OCT	106.6	89.89	1082	1060	
1964 63E		902	US	6 OCT	106.6	89.90	1084	1057	
1964 63F		903	US	6 OCT	106.6	89.88	1085	1056	
1964 64A	EXPLORER 22	899	US	10 OCT	104.8	79.69	1082	886	\$136.171\$162\$324 \$20\$40\$41\$360
1964 64B		907	US	10 OCT	104.7	79.69	1078	889	
1964 64C		976	US	10 OCT	104.0	79.32	1061	840	
1964 64D		977	US	10 OCT	105.5	80.03	1141	895	
1964 72A		922	US	4 NOV	94.7	82.07	509	501	
1964 72B		925	US	4 NOV	93.9	82.03	466	466	
1964 73A	MARINER 3	923	US	5 NOV	HELIOCENTRIC ORBIT				
1964 74A	EXPLORER 23	924	US	6 NOV	99.1	51.95	969	463	
1964 76A	EXPLORER 24	931	US	21 NOV	112.8	81.36	2139	513	136.709
1964 76B	EXPLORER 25	932	US	21 NOV	116.2	81.36	2491	530	
1964 76C		933	US	21 NOV	116.2	81.35	2489	533	
1964 76D		934	US	21 NOV	115.9	81.34	2464	516	
1964 76E		935	US	21 NOV	116.2	81.31	2481	534	
1964 76F		936	US	21 NOV	112.2	81.26	2082	534	
1964 76G		937	US	21 NOV	115.8	81.33	2444	538	
1964 76H		939	US	21 NOV	111.6	81.30	1954	515	
1964 76I		940	US	21 NOV	115.6	81.36	2438	533	
1964 76J		941	US	21 NOV	115.9	81.33	2472	516	
1964 76K		960	US	21 NOV	116.6	81.47	2466	605	
1964 76L		1411	US	21 NOV	115.2	81.22	2414	520	
1964 77A	MARINER 4	938	US	28 NOV	HELIOCENTRIC ORBIT				
1964 77B		942	US	28 NOV	HELIOCENTRIC ORBIT				
1964 78C	ZOND 2	945	USSR	30 NOV	HELIOCENTRIC ORBIT				
1964 83A		953	US	13 DEC	106.1	89.92	1074	1022	

OBJECTS IN ORBIT

<u>OBJECT</u>	<u>CODE NAME</u>	<u>CATALOGUE NUMBER</u>	<u>SOURCE</u>	<u>LAUNCH</u>	<u>PERIOD MINUTES</u>	<u>INCLI- NATION</u>	<u>APOGEE Km.</u>	<u>PERIGEE Km.</u>	<u>TRANSMITTING FREQ. (MC/S)</u>
1964 LAUNCHES (CONT'D)									
1964 83B		956	US	13 DEC	106.3	90.00	1088	1024	
1964 83C		959	US	13 DEC	106.3	89.95	1088	1026	\$162 \$324
1964 83D		965	US	13 DEC	106.3	89.95	1086	1028	\$150 \$400
1964 83E		966	US	13 DEC	106.3	89.93	1089	1024	
1964 83F		967	US	13 DEC	106.3	89.95	1084	1027	
1964 83G		1099	US	13 DEC	106.3	89.93	1088	1025	
1964 83H		1528	US	13 DEC	107.2	89.92	1144	1050	
1964 83J		1608	US	13 DEC	106.3	89.94	1091	1021	
1964 86A	EXPLORER 26	963	US	21 DEC	505.9	20.04	29000	819	136.273
1965 LAUNCHES									
1965 03A		973	US	19 JAN	97.5	98.73	820	458	
1965 04A	TIROS 9	978	US	22 JAN	119.2	96.40	2582	707	\$136.234\$136.918
1965 04B		979	US	22 JAN	119.3	96.42	2592	707	
1965 04C		1312	US	22 JAN	118.0	96.31	2508	681	
1965 04D		1313	US	22 JAN	120.4	96.41	2669	729	
1965 07A	ORB. SOL. OBS. 2	987	US	3 FEB	96.4	32.88	625	547	
1965 07B		988	US	3 FEB	96.4	32.87	628	545	
1965 08A		1001	US	11 FEB	145.4	32.14	2793	2764	
1965 08B		1000	US	11 FEB	145.6	32.14	2797	2781	
1965 08C		1002	US	11 FEB	145.7	32.14	2807	2779	
1965 09A	PEGASUS 1	1085	US	16 FEB	96.9	31.76	720	495	\$136.410;136.890
1965 09B		1088	US	16 FEB	97.0	31.76	730	498	
1965 10B		1087	US	17 FEB	BARYCENTRIC ORBIT				
1965 11A	COSMOS 54	1089	USSR	21 FEB	101.0	56.06	1352	260	
1965 11B	COSMOS 55	1090	USSR	21 FEB	100.0	56.06	1258	259	
1965 11C	COSMOS 56	1091	USSR	21 FEB	98.4	56.03	1106	254	
1965 11D		1092	USSR	21 FEB	103.8	56.08	1610	270	
1965 14A	COSMOS 58	1097	USSR	26 FEB	96.7	65.03	642	565	

OBJECTS IN ORBIT

OBJECT	CODE NAME	CATALOGUE NUMBER	SOURCE	LAUNCH	PERIOD MINUTES	INCLI- NATION	APOGEE		PERIGEE		TRANSMITTING FREQ. (MC/S)
							Km.		Km.		
1965 LAUNCHES (CONT'D)											
1965 14B	GREB GRAVITY GRADIENT II GRAVITY GRADIENT III SOLAR RAD. EGRS III OSCAR III SURCAL DODECAHEDRON ROCKET BODY EGRS II	1098	USSR	26 FEB	96.8	65.05	715		499		136.840
1965 16A		1271	US	9 MAR	103.5	70.08	940		910		
1965 16B		1244	US	9 MAR	103.5	70.06	940		910		
1965 16C		1292	US	9 MAR	103.5	70.07	939		909		
1965 16D		1291	US	9 MAR	103.5	70.08	940		910		
1965 16E		1208	US	9 MAR	103.5	70.08	939		909		
1965 16F		1293	US	9 MAR	103.5	70.09	936		912		
1965 16G		1310	US	9 MAR	103.4	70.09	929		908		
1965 16H		1272	US	9 MAR	103.5	70.07	940		908		
1965 16J		1245	US	9 MAR	103.5	70.13	946		900		
1965 17B	1250	US	11 MAR	95.5	89.98	806		277			
1965 17C	1228	US	11 MAR	94.3	89.99	697		270			
1965 17D	1248	US	11 MAR	94.0	89.99	672		271			
1965 20A	COSMOS 61	1267	USSR	15 MAR	99.6	56.04	1220		259		
1965 20B	COSMOS 62	1268	USSR	15 MAR	101.3	56.07	1351		263		
1965 20C	COSMOS 63	1269	USSR	15 MAR	98.4	56.05	1109		253		
1965 20D-20EL***			USSR	15 MAR							
1965 21A	EGRS IV	1273	US	18 MAR	97.5	99.01	752		528		
1965 21C		2189	US	18 MAR	97.4	99.01	748		526		
1965 21E		1376	US	18 MAR	96.2	98.99	638		514		
1965 21F		1463	US	18 MAR	98.5	99.01	847		528		
1965 23B		1298	US	21 MAR	BARYCENTRIC ORBIT						
1965 27A		1314	US	3 APR	111.5	90.23	1319		1276		
1965 27B		1315	US	3 APR	111.4	90.22	1315		1274		
1965 27C		1316	US	3 APR	111.5	90.24	1319		1271		
1965 27D		1389	US	3 APR	111.5	90.22	1321		1272		
1965 27E		1399	US	3 APR	111.5	90.23	1324		1271		
1965 28A	EARLY BIRD	1317	US	6 APR	1436.0	1.68	35805		35765		
1965 28B	ROCKET BODY	1318	US	6 APR	CURRENT ELEMENTS NOT MAINTAINED						
1965 30A	MOLNIA 1	1324	USSR	23 APR	720.0	65.64	39126		1342		

136.840

OBJECTS IN ORBIT

<u>OBJECT</u>	<u>CODE NAME</u>	<u>CATALOGUE NUMBER</u>	<u>SOURCE</u>	<u>LAUNCH</u>	<u>PERIOD MINUTES</u>	<u>INCLI- NATION</u>	<u>APOGEE Km.</u>	<u>PERIGEE Km.</u>	<u>TRANSMITTING FREQ. (MC/S)</u>
1965 LAUNCHES (CONT'D)									
1965 30D		1967	USSR	23 APR	703.6	65.00	38253	1393	
1965 31B		1329	US	28 APR	94.8	95.21	534	492	\$136.740\$162\$324
1965 32A	EXPLORER 27	1328	US	29 APR	107.8	41.19	1311	940	\$20\$40\$41\$360
1965 32B		1358	US	29 APR	107.8	41.19	1312	938	
1965 32C		1995	US	29 APR	106.7	41.10	1294	850	
1965 32D		2011	US	29 APR	109.0	41.19	1283	1077	
1965 34A		1359	US	6 MAY	157.0	32.13	3744	2779	
1965 34B		1360	US	6 MAY	CURRENT ELEMENTS NOT MAINTAINED				
1965 34C		1361	US	6 MAY	145.6	32.13	2789	2785	
1965 34D		2529	US	6 MAY	309.8	32.08	14781	2793	
1965 38A		1377	US	20 MAY	100.0	98.54	964	553	
1965 38B		1378	US	20 MAY	100.0	98.54	963	554	
1965 38C		1379	US	20 MAY	99.9	98.56	953	555	
1965 38E		1461	US	20 MAY	100.9	98.59	1053	552	
1965 38F		1462	US	20 MAY	98.8	98.52	860	550	
1965 38G		1475	US	20 MAY	100.1	98.51	973	554	
1965 39A	PEGASUS 2	1381	US	25 MAY	97.1	31.77	723	510	\$136.410;136.889
1965 39B	ROCKET BODY	1385	US	25 MAY	97.2	31.77	733	510	
1965 42A	EXPLORER 28	1388	US	29 MAY	8558.8	33.86	264247	196	136.125
1965 44A	LUNIK 6	1393	USSR	8 JUN	HELIOCENTRIC ORBIT				
1965 48A		1420	US	24 JUN	106.9	89.96	1144	1027	\$150 \$400
1965 48B		1428	US	24 JUN	106.6	89.97	1114	1026	
1965 48C		1425	US	24 JUN	106.9	89.96	1142	1026	
1965 48D		1435	US	24 JUN	106.9	89.96	1141	1029	
1965 50A		1422	US	25 JUN	94.3	107.64	485	481	\$136.232\$136.924
1965 51A	TIROS 10	1430	US	2 JUL	100.6	98.58	838	744	
1965 51B		1433	US	2 JUL	100.7	98.62	838	749	
1965 51C		1440	US	2 JUL	99.3	98.48	836	617	
1965 51D		1529	US	2 JUL	102.0	98.65	885	826	
1965 53A	COSMOS 71	1441	USSR	16 JUL	95.1	56.09	537	509	

OBJECTS IN ORBIT

<u>OBJECT</u>	<u>CODE NAME</u>	<u>CATALOGUE NUMBER</u>	<u>SOURCE</u>	<u>LAUNCH</u>	<u>PERIOD MINUTES</u>	<u>INCL- NATION</u>	<u>APOGEE Km.</u>	<u>PERIGEE Km.</u>	<u>TRANSMITTING FREQ. (MC/S)</u>
1965 LAUNCHES (CONT'D)									
1965 53B	COSMOS 72	1442	USSR	16 JUL	95.8	56.08	578	540	
1965 53C	COSMOS 73	1443	USSR	16 JUL	95.5	56.10	549	535	
1965 53D	COSMOS 74	1444	USSR	16 JUL	96.2	5 .06	607	542	
1965 53E	COSMOS 75	1445	USSR	16 JUL	96.4	56.05	634	542	
1965 53F		1448	USSR	16 JUL	96.5	56.08	639	546	
1965 53G		1449	USSR	16 JUL	93.4	56.06	459	421	
1965 53H		1473	USSR	16 JUL	96.4	56.06	636	535	
1965 53J		2338	USSR	16 JUL	94.7	56.09	509	495	
1965 55A		1447	US	17 JUL	94.1	70.17	491	460	
1965 56A	ZOND 3	1454	USSR	18 JUL	HELIOCENTRIC ORBIT				
1965 58A		1458	US	20 JUL	6707.8	34.10	118586	104294	
1965 58B		1459	US	20 JUL	6703.7	33.66	125681	98104	
1965 58C		1460	US	20 JUL	CURRENT ELEMENTS NOT MAINTAINED				
1965 60A	PEGASUS 3	1467	US	30 JUL	94.9	28.86	518	509	\$136.410;136.590
1965 60B		1468	US	30 JUL	95.1	28.87	531	513	
1965 62B		1472	US	3 AUG	94.3	107.36	487	486	
1965 63A	EGRS 5	1506	US	10 AUG	122.2	69.23	2424	1138	
1965 63B		1502	US	10 AUG	122.2	69.23	2423	1140	
1965 64A	CENTAUR 6	1503	US	11 AUG	BARYCENTRIC ORBIT				
1965 65A		1504	US	13 AUG	108.1	90.01	1191	1089	
1965 65B		1508	US	13 AUG	107.9	90.00	1161	1100	
1965 65C		1510	US	13 AUG	108.0	90.01	1188	1086	
1965 65D		1511	US	13 AUG	108.1	90.01	1191	1089	
1965 65E		1512	US	13 AUG	108.1	90.00	1195	1086	
1965 65F		1514	US	13 AUG	108.1	90.01	1194	1087	\$150 \$400
1965 65G		1515	US	13 AUG	108.0	90.01	1194	1082	
1965 65H		1520	US	13 AUG	108.1	90.01	1195	1088	
1965 65J		1521	US	13 AUG	108.1	89.99	1190	1091	
1965 65K		1577	US	13 AUG	108.1	90.01	1201	1081	
1965 65L		1522	US	13 AUG	108.1	90.01	1194	1089	

OBJECTS IN ORBIT

<u>OBJECT</u>	<u>CODE NAME</u>	<u>CATALOGUE NUMBER</u>	<u>SOURCE</u>	<u>LAUNCH</u>	<u>PERIOD MINUTES</u>	<u>INCLI- NATION</u>	<u>APOGEE Km.</u>	<u>PERIGEE Km.</u>	<u>TRANSMITTING FREQ. (MC/S)</u>
1965 LAUNCHES (CONT'D)									
1965 65M		2335	US	13 AUG	108.0	90.06	904	904	
1965 70A	COSMOS 80	1570	USSR	3 SEP	115.0	56.10	1553	1355	
1965 70B	COSMOS 81	1571	USSR	3 SEP	115.3	56.10	1557	1385	
1965 70C	COSMOS 82	1572	USSR	3 SEP	115.7	56.06	1567	1406	
1965 70D	COSMOS 83	1573	USSR	3 SEP	116.1	56.10	1570	1437	
1965 70E	COSMOS 84	1574	USSR	3 SEP	116.4	56.07	1573	1468	
1965 70F		1575	USSR	3 SEP	114.6	56.08	1522	1352	
1965 72A		1580	US	10 SEP	101.9	98.59	1053	650	
1965 72B		1581	US	10 SEP	92.7	98.93	191	191	
1965 72C		1582	US	10 SEP	98.0	99.05	754	576	
1965 72D		1583	US	10 SEP	101.9	98.59	1050	652	
1965 72E		1931	US	10 SEP	103.3	98.61	1179	653	
1965 72F		1932	US	10 SEP	100.7	98.59	936	648	
1965 73A	COSMOS 86	1584	USSR	18 SEP	115.1	56.09	1640	1277	
1965 73B	COSMOS 87	1585	USSR	18 SEP	115.5	56.06	1650	1303	
1965 73C	COSMOS 88	1586	USSR	18 SEP	115.8	56.10	1665	1323	
1965 73D	COSMOS 89	1587	USSR	18 SEP	116.2	56.09	1678	1347	
1965 73E	COSMOS 90	1588	USSR	18 SEP	116.7	56.13	1690	1371	
1965 73F		1589	USSR	18 SEP	116.8	56.05	1698	1377	
1965 73G		1590	USSR	18 SEP	116.5	56.12	1690	1357	
1965 73H		1591	USSR	18 SEP	116.7	56.09	1697	1367	
1965 73J		1617	USSR	18 SEP	117.5	56.12	1775	1362	
1965 73K		1618	USSR	18 SEP	117.7	56.18	1771	1384	
1965 73L		2647	USSR	18 SEP	116.1	56.11	1663	1352	
1965 78A		1613	US	5 OCT	125.5	144.27	3440	412	
1965 78B		1616	US	5 OCT	125.5	144.27	3431	413	
1965 80A	2nd MOLNIYA 1	1621	USSR	13 OCT	716.6	64.93	39735	560	
1965 81A	OGO 2	1620	US	14 OCT	104.2	87.10	1538	376	\$136.200\$400.250 \$400.850
1965 81B		1625	US	14 OCT	104.1	87.35	1497	419	
1965 82A	TITAN 3 C-4	1624	US	15 OCT	99.8	32.32	777	721	

OBJECTS IN ORBIT

<u>OBJECT</u>	<u>CODE NAME</u>	<u>CATALOGUE NUMBER</u>	<u>SOURCE</u>	<u>LAUNCH</u>	<u>PERIOD MINUTES</u>	<u>INCLI- NATION</u>	<u>APOGEE Km.</u>	<u>PERIGEE Km.</u>	<u>TRANSMITTING FREQ. (MC/S)</u>
1965 LAUNCHES (CONT'D)									
1965 82B-82KL***									
1965 84E		2098	US	15 OCT					
1965 89A	EXPLORER 29	1726	USSR	19 OCT	93.5	48.45	489	401	
1965 89B		1729	US	6 NOV	120.3	59.38	2279	1113	\$162 \$324
1965 91A	VENERA 2	1730	US	6 NOV	120.3	59.40	2277	1113	
1965 92D			USSR	12 NOV	HELIOCENTRIC ORBIT				
1965 93A	EXPLORER 30	1736	USSR	16 NOV	HELIOCENTRIC ORBIT				
1965 93B		1738	US	19 NOV	100.7	59.71	905	683	136.530
1965 93C		1739	US	19 NOV	100.7	59.71	878	710	
1965 93D		2013	US	19 NOV	100.3	59.69	840	704	
1965 95A	COSMOS 97	2088	US	19 NOV	101.4	59.74	927	722	
1965 96A	A-1	1777	USSR	26 NOV	94.9	48.44	810	187	
1965 96B		1778	FRENCH	26 NOV	108.7	34.27	1799	527	
1965 96C		1805	FRENCH	26 NOV	108.7	34.27	1805	528	
1965 96D		1938	FRENCH	26 NOV	98.3	34.30	836	455	
1965 98A	ALOUETTE 2	1996	FRENCH	26 NOV	108.5	34.27	1785	528	\$136.080\$136.590
		1804	CANADA	29 NOV	121.4	79.83	2979	507	\$136.980
1965 98B	EXPLORER 31	1806	US	29 NOV	121.1	79.83	2949	509	\$136.380
1965 98C		1807	US	29 NOV	121.3	79.83	2973	508	
1965 98D		1808	US	29 NOV	121.1	79.83	2954	505	
1965 98E		1944	US	29 NOV	121.4	79.83	2982	507	
1965 98F		1948	US	29 NOV	121.3	79.89	2967	510	
1965 98G		1951	US	29 NOV	121.1	79.87	2956	508	
1965 98H		2092	US	29 NOV	121.3	79.87	2975	510	
1965 98J		2153	US	29 NOV	121.3	79.80	2973	504	
1965 101A	FR-1	1814	FRENCH	6 DEC	99.9	75.88	761	747	\$136.350;136.800
1965 101B		1815	US	6 DEC	100.0	75.86	767	753	
1965 101C		1934	US	6 DEC	99.9	76.48	778	732	
1965 101D		1935	US	6 DEC	99.5	75.27	773	698	

OBJECTS IN ORBIT

OBJECT	CODE NAME	CATALOGUE NUMBER	SOURCE	LAUNCH	PERIOD MINUTES	INCLI- NATION	APOGEE Km.	PERIGEE Km.	TRANSMITTING FREQ. (MC/S)
1965 LAUNCHES (CONT'D)									
1965 105A	PIONEER 6	1841	US	16 DEC	HELIOCENTRIC ORBIT				
1965 105B		1842	US	16 DEC	98.3	30.19	1080	269	
1965 106A	COSMOS 100	1843	USSR	17 DEC	97.6	64.99	653	632	
1965 106B		1844	USSR	17 DEC	97.7	65.02	737	562	
1965 108A	TITAN 3 C-8	1863	US	21 DEC	CURRENT ELEMENTS NOT MAINTAINED				
1965 108B	LES 4	1870	US	21 DEC	CURRENT ELEMENTS NOT MAINTAINED				
1965 108C	OSCAR IV	1902	US	21 DEC	CURRENT ELEMENTS NOT MAINTAINED				
1965 108D	LES 3	1941	US	21 DEC	CURRENT ELEMENTS NOT MAINTAINED				
1965 109A		1864	US	22 DEC	105.0	89.11	1087	907	\$150 \$400
1965 109B		1865	US	22 DEC	105.0	89.10	1087	907	
1965 109C		2086	US	22 DEC	103.7	89.20	977	895	
1965 109D		2226	US	22 DEC	107.3	89.09	1305	906	
1965 109E		2353	US	22 DEC	105.5	89.38	1140	895	
1965 112A	COSMOS 103	1868	USSR	28 DEC	97.0	56.05	629	598	
1965 112B-112Q*****			USSR	28 DEC					
1966 LAUNCHES									
1966 00A\$\$		2428	UNKNOWN	UNKNOWN	162.4	35.17	6747	203	
1966 00B\$\$		2429	UNKNOWN	UNKNOWN	162.6	85.00	6342	621	
1966 00C\$\$		2430	UNKNOWN	UNKNOWN	162.9	85.27	6262	740	
1966 05A		1952	US	28 JAN	105.9	89.71	1215	863	\$150 \$400
1966 05B		1953	US	28 JAN	105.9	89.71	1213	863	
1966 05C		2140	US	28 JAN	107.9	89.88	1390	870	
1966 05D		2141	US	28 JAN	104.4	89.73	1094	846	
1966 06D		2001	USSR	31 JAN	BARYCENTRIC ORBIT				
1966 08A	ESSA-1	1982	US	3 FEB	100.3	97.93	842	705	\$136.230\$136.920
1966 08B		1983	US	3 FEB	100.5	97.92	867	704	
1966 08C		2085	US	3 FEB	99.2	97.78	756	688	

OBJECTS IN ORBIT

<u>OBJECT</u>	<u>CODE NAME</u>	<u>CATALOGUE NUMBER</u>	<u>SOURCE</u>	<u>LAUNCH</u>	<u>PERIOD MINUTES</u>	<u>INCLI- NATION</u>	<u>APOGEE Km.</u>	<u>PERIGEE Km.</u>	<u>TRANSMITTING FREQ. (MC/S)</u>
1966 LAUNCHES (CONT'D)									
1966 08D		2118	US	3 FEB	101.3	98.07	952	696	
1966 08E		2154	US	3 FEB	100.3	97.83	833	714	
1966 09A		1997	US	9 FEB	94.6	82.09	502	496	
1966 13A	D-1A	2017	FRENCH	17 FEB	118.7	34.06	2739	502	
1966 13B		2016	FRENCH	17 FEB	118.6	34.08	2729	505	
1966 13C		2018	FRENCH	17 FEB	111.5	34.08	2076	452	
1966 13D		2020	FRENCH	17 FEB	111.1	34.09	2033	452	
1966 13E		2021	FRENCH	17 FEB	109.3	34.12	1815	446	
1966 13F		2023	FRENCH	17 FEB	117.6	34.03	2659	485	
1966 13G		2161	FRENCH	17 FEB	119.4	34.14	2789	516	
1966 16A	ESSA 2	2091	US	28 FEB	113.5	100.93	1415	1359	\$136.770\$137.500
1966 16B		2096	US	28 FEB	113.5	100.88	1419	1357	
1966 16C		2223	US	28 FEB	111.9	100.89	1389	1243	
1966 16D		2224	US	28 FEB	115.1	101.01	1567	1353	
1966 19A	GEMINI AGENA TARGET VEHICLE	2104	US	16 MAR	91.9	28.91	369	363	
1966 24A		2119	US	26 MAR	105.3	89.73	1122	897	\$150 \$400
1966 24B		2120	US	26 MAR	105.3	89.73	1123	897	
1966 24C		2386	US	26 MAR	105.2	90.11	1110	898	
1966 25A	OV1-4	2121	US	30 MAR	104.1	144.51	1015	885	
1966 25B	OV1-5	2122	US	30 MAR	105.6	144.62	1058	987	
1966 25C		2123	US	30 MAR	105.6	144.66	1062	983	
1966 25D		2124	US	30 MAR	104.1	144.53	1014	884	
1966 26A		2125	US	31 MAR	100.5	98.57	938	629	
1966 26B		2129	US	31 MAR	100.5	98.58	939	628	
1966 26D		2177	US	31 MAR	102.4	98.57	1115	628	

OBJECTS IN ORBIT

<u>OBJECT</u>	<u>CODE NAME</u>	<u>CATALOGUE NUMBER</u>	<u>SOURCE</u>	<u>LAUNCH</u>	<u>PERIOD MINUTES</u>	<u>INCLI- NATION</u>	<u>APOGEE Km.</u>	<u>PERIGEE Km.</u>	<u>TRANSMITTING FREQ. (MC/S)</u>
1966 LAUNCHES (CONT'D)									
1966 26E		2178	US	31 MAR	98.7	98.57	768	626	
1966 26F		2179	US	31 MAR	100.2	98.57	912	628	
1966 27A	LUNA 10	2126	USSR	31 MAR	SELENOCENTRIC ORBIT				
1966 27D		2130	USSR	31 MAR	HELIOCENTRIC ORBIT				
1966 27E		2131	USSR	31 MAR	BARYCENTRIC ORBIT				
1966 27F		2132	USSR	31 MAR	BARYCENTRIC ORBIT				
1966 31A	OA0 1	2142	US	8 APR	100.9	35.06	804	792	
1966 31B		2144	US	8 APR	100.8	35.05	804	787	
1966 31C		2154	US	8 APR	100.8	35.03	803	788	
1966 34A	OV3-1	2150	US	22 APR	151.4	82.44	5715	352	
1966 34B		2167	US	22 APR	151.1	82.42	5698	354	
1966 34C		2208	US	22 APR	152.8	82.43	5738	364	
1966 34D		2209	US	22 APR	150.7	81.84	5641	339	
1966 35A	3rd MOLNIYA I	2151	USSR	25 APR	710.7	64.95	39505	539	
1966 38A	COSMOS 118	2168	USSR	11 MAY	97.1	65.03	642	599	
1966 38B		2169	USSR	11 MAY	97.0	65.01	679	550	
1966 39B		2172	US	14 MAY	95.2	109.94	547	515	
1966 40A	NIMBUS 2	2173	US	15 MAY	108.1	100.31	1183	1098	136.500\$136.950
									\$137.200\$1707.5
1966 40B		2174	US	15 MAY	107.9	100.30	1173	1086	
1966 41A		2176	US	19 MAY	103.4	89.90	985	857	\$150 \$400
1966 41B		2180	US	19 MAY	103.4	89.90	986	858	
1966 41C		2225	US	19 MAY	101.3	89.87	860	781	
1966 41D		2644	US	19 MAY	105.6	89.91	1202	847	
1966 44A	EXPLORER 32	2183	US	25 MAY	115.5	64.66	2688	271	\$136.320\$136.560
1966 44B		2184	US	25 MAY	113.2	64.65	2476	265	
1966 44C		2336	US	25 MAY	115.8	64.62	2634	326	
1966 45B		2187	US	30 MAY	BARYCENTRIC ORBIT				

OBJECTS IN ORBIT

OBJECT	CODE NAME	CATALOGUE NUMBER	SOURCE	LAUNCH	PERIOD MINUTES	INCLI- NATION	APOGEE Km.	PERIGEE Km.	TRANSMITTING FREQ. (MC/S)
1966 LAUNCHES (CONT'D)									
1966 49A	OGO 3	2195	US	7 JUN	2914.2	34.37	121837	617	\$136.200\$400.250
1966 51B	EGRS VI	2205	US	9 JUN	109.0	89.99	2191	172	\$400.850
1966 51C	ERS-16	2202	US	9 JUN	97.5	89.90	1100	154	136.800
1966 52A		2201	US	10 JUN	143.2	40.84	4726	647	&136.440
1966 52B		2206	US	10 JUN	143.2	40.83	4725	646	
1966 52C		2498	US	10 JUN	141.2	40.63	4586	623	
1966 52D		2516	US	10 JUN	145.3	41.00	4853	699	
1966 53A		2207	US	16 JUN	1333.8	.57	33844	33675	
1966 53B		2215	US	16 JUN	1334.5	.57	33892	33646	
1966 53C		2216	US	16 JUN	1335.3	.53	33889	33689	
1966 53D		2217	US	16 JUN	1336.5	.67	33917	33712	
1966 53E		2218	US	16 JUN	1338.6	.55	34000	33713	
1966 53F		2219	US	16 JUN	1341.0	.62	34106	33700	
1966 53G		2220	US	16 JUN	1344.0	.61	34253	33675	
1966 53H		2221	US	16 JUN	1347.6	.69	34341	33725	
1966 53J		2222	US	16 JUN	CURRENT ELEMENTS NOT MAINTAINED				
1966 56A	PAGEOS 1	2253	US	24 JUN	180.8	86.53	5272	3157	
1966 56B	ROCKET BODY	2255	US	24 JUN	181.2	86.99	4264	4199	
1966 56C		2256	US	24 JUN	181.4	86.91	4279	4193	
1966 56D		2511	US	24 JUN	181.5	87.01	4261	4224	
1966 57A	COSMOS 122	2254	USSR	25 JUN	97.1	64.99	639	597	
1966 57B		2257	USSR	25 JUN	97.0	65.00	697	538	
1966 58A	EXPLORER 33	2258	US	1 JUL	25214.4	21.60	477386	79528	136.020
1966 58C		2260	US	1 JUL	CURRENT ELEMENTS NOT MAINTAINED				
1966 63A	OV1-8	2324	US	14 JUL	104.9	144.22	999	952	
1966 63B		2327	US	14 JUL	105.2	144.25	1008	1001	

OBJECTS IN ORBIT

<u>OBJECT</u>	<u>CODE NAME</u>	<u>CATALOGUE NUMBER</u>	<u>SOURCE</u>	<u>LAUNCH</u>	<u>PERIOD MINUTES</u>	<u>INCLI- NATION</u>	<u>APOGEE Km.</u>	<u>PERIGEE Km.</u>	<u>TRANSMITTING FREQ. (MC/S)</u>
1966 LAUNCHES (CONT'D)									
1966 63C		2328	US	14 JUL	105.3	144.25	1011	999	
1966 63D		2329	US	14 JUL	105.4	144.26	1018	1008	
1966 63E		2337	US	14 JUL	105.3	144.25	1011	1004	
1966 66E		2356	US	18 JUL	91.8	28.88	359	359	
1966 70A	OV3-3	2389	US	4 AUG	136.7	81.48	4469	361	
1966 70B		2404	US	4 AUG	136.6	81.49	4449	364	
1966 70C		2521	US	4 AUG	133.8	81.54	4251	289	
1965 73B		2395	US	10 AUG	BARYCENTRIC ORBIT				
1966 74B		2397	US	16 AUG	94.8	93.17	514	508	
1966 75A	PIONEER 7	2398	US	17 AUG	HELIOCENTRIC ORBIT				
1966 75B		2399	US	17 AUG	94.8	32.99	770	244	
1966 75C		2402	US	17 AUG	HELIOCENTRIC ORBIT				
1966 75E		2572	US	17 AUG	92.6	32.99	433	241	
1966 76A		2401	US	18 AUG	106.8	88.86	1103	1055	\$150 \$400
1966 76B		2413	US	18 AUG	106.8	88.85	1104	1054	
1966 76C		2580	US	18 AUG	105.4	89.15	1090	936	
1966 77A		2403	US	19 AUG	167.5	90.11	3701	3677	
1966 77B	EGRS VII	2411	US	19 AUG	167.5	90.10	3702	3676	
1966 77C	ERS-15	2412	US	19 AUG	167.6	90.10	3702	3686	
1966 78A	LUNA 11	2406	USSR	24 AUG	SELENOCENTRIC ORBIT				
1966 82A		2418	US	16 SEP	100.8	98.49	902	696	
1966 82B		2422	US	16 SEP	100.8	98.45	902	697	
1966 83B		2420	US	16 SEP	94.0	94.00	484	455	
1966 84B		2426	US	20 SEP	BARYCENTRIC ORBIT				
1966 87A	ESSA-3	2435	US	2 OCT	114.6	101.04	1488	1389	\$136.770

OBJECTS IN ORBIT

<u>OBJECT</u>	<u>CODE NAME</u>	<u>CATALOGUE NUMBER</u>	<u>SOURCE</u>	<u>LAUNCH</u>	<u>PERIOD MINUTES</u>	<u>INCLI- NATION</u>	<u>APOGEE Km.</u>	<u>PERIGEE Km.</u>	<u>TRANSMITTING FREQ. (MC/SS)</u>
1966 LAUNCHES (CONT'D)									
1966 87B		2436	US	2 OCT	114.6	101.06	1488	1388	
1966 87C		2518	US	2 OCT	115.9	100.84	1562	1436	
1966 88B		2438	USSR	17 SEP	91.1	49.27	299	240	
1966 88E		2441	USSR	17 SEP	96.6	50.30	904	280	
1966 89A		2481	US	5 OCT	167.6	90.20	3706	3678	
1966 89B	EGRS VIII	2520	US	5 OCT	167.6	90.20	3706	3683	136.840
1966 92A	4th MOLNIYA I	2501	USSR	20 OCT	717.7	64.85	39876	474	
1966 94A	LUNA 12	2508	USSR	22 OCT	SELENOCENTRIC ORBIT				
1966 95B		2513	US	25 OCT	BARYCENTRIC ORBIT				
1966 96A	INTEL SAT 2	2514	US	26 OCT	730.1	17.22	37534	3422	\$136.440\$136.980
1966 97A	OV3-2	2517	US	28 OCT	103.8	82.00	1561	318	
1966 97B		2519	US	28 OCT	103.6	81.98	1537	319	
1966 97C		2613	US	28 OCT	100.0	81.95	1269	248	
1966 97D		2614	US	28 OCT	105.5	82.01	1652	376	
1966 100A	LUNAR ORBITER II	2534	US	6 NOV	SELENOCENTRIC ORBIT				
1966 101G		2543	USSR	2 NOV	93.1	49.62	655	137	
1966 110A	ATS-1	2608	US	7 DEC	1466.0	.23	36887	35852	\$136.470 \$137.350
1966 110B		2609	US	7 DEC	610.6	31.00	33657	152	
1966 111A	OV1-9	2610	US	11 DEC	142.2	99.12	4821	475	
1966 111B	OV1-10	2611	US	11 DEC	98.8	93.42	769	639	
1966 111C		2621	US	11 DEC	98.8	93.42	767	640	
1966 111D		2622	US	11 DEC	142.2	99.10	4828	470	
1966 112A	COSMOS 135	2612	USSR	12 DEC	92.1	48.43	514	243	
1966 112B		2615	USSR	12 DEC	91.3	48.42	419	239	
1966 117A	COSMOS 137	2627	USSR	21 DEC	102.6	48.81	1542	221	
1966 117B		2630	USSR	21 DEC	102.3	48.79	1506	220	
1966 118A		2634	US	29 DEC	94.3	75.02	491	484	
1966 118B		2635	US	29 DEC	93.3	75.00	434	433	
1966 118C		2636	US	29 DEC	93.2	75.02	443	425	

OBJECTS IN ORBIT

OBJECT	CODE NAME	CATALOGUE NUMBER	SOURCE	LAUNCH	PERIOD MINUTES	INCLI- NATION	APOGEE Km.	PERIGEE Km.	TRANSMITTING FREQ. (MC/S)
1967 LAUNCHES									
1967 01A	INTEL SAT II F-2	2639	US	11 JAN	448.6	2.14	36493	35567	\$136.440\$136.980
1967 01B		2640	US	11 JAN	91.5	28.75	456	236	
1967 01D		2643	US	11 JAN	652.9	26.18	36810	288	
1967 03A		2645	US	18 JAN	1329.6	.01	33839	33510	
1967 03B		2649	US	18 JAN	1330.0	.04	33827	33538	
1967 03C		2650	US	18 JAN	1330.8	.06	33818	33580	
1967 03D		2651	US	18 JAN	1332.1	.05	33879	33573	
1967 03E		2652	US	18 JAN	1334.1	.02	33918	33614	
1967 03F		2653	US	18 JAN	1339.5	.02	34084	33664	
1967 03G		2654	US	18 JAN	1343.0	.04	34218	33670	
1967 03H		2655	US	18 JAN	1336.5	.06	34206	33649	
1967 03J		2660	US	18 JAN	CURRENT ELEMENTS NOT MAINTAINED				
1967 06A	ESSA 4	2657	US	26 JAN	113.4	102.00	1443	1328	
1967 06B		2661	US	26 JAN	113.6	101.98	1445	1344	
1967 08A	LUNAR ORBITER C	2666	US	5 FEB	SELENOCENTRIC ORBIT				
1967 10A		2669	US	8 FEB	101.5	98.86	875	787	
1967 11A		2675	FRENCH	8 FEB	104.3	39.98	1351	568	
1967 11B		2671	FRENCH	8 FEB	104.3	39.98	1353	568	
1967 11C		2673	FRENCH	8 FEB	104.3	39.93	1354	568	
1967 11D		2674	FRENCH	8 FEB	104.3	39.94	1320	595	
1967 11E		2676	FRENCH	8 FEB	103.9	39.95	1314	574	
1967 11F		2677	FRENCH	8 FEB	104.0	39.91	1315	570	
1967 11G		2688	FRENCH	8 FEB	104.3	39.97	1302	619	
1967 11H		2689	FRENCH	8 FEB	105.1	39.98	1446	553	
1967 11J		2690	FRENCH	8 FEB	104.1	39.98	1331	571	
1967 11K		2691	FRENCH	8 FEB	104.0	39.97	1288	584	
1967 11L	COSMOS 142	2692	FRENCH	8 FEB	103.4	39.98	1274	560	
1967 13A		2678	USSR	14 FEB	100.0	48.40	1300	209	
1967 13B		2679	USSR	14 FEB	100.0	48.40	1287	211	

OBJECTS IN ORBIT

<u>OBJECT</u>	<u>CODE NAME</u>	<u>CATALOGUE NUMBER</u>	<u>SOURCE</u>	<u>LAUNCH</u>	<u>PERIOD MINUTES</u>	<u>INCL - NATION</u>	<u>APOGEE Km.</u>	<u>PERIGEE Km.</u>	<u>TRANSMITTING FREQ. (MC/S)</u>
1967 LAUNCHES (CONT'D)									
1967 14A		2680	FRENCH	15 FEB	110.4	39.97	1899	592	
1967 14B		2682	FRENCH	15 FEB	110.3	39.45	1891	590	
1967 14C		2684	FRENCH	15 FEB	110.2	39.46	1883	589	
1967 14D		2681	FRENCH	15 FEB	109.1	39.54	1773	594	
1967 14E		2683	FRENCH	15 FEB	110.7	39.45	2195	590	
1967 14F		2685	FRENCH	15 FEB	110.1	38.91	1882	579	
1967 15A		2686	US	22 FEB	90.1	80.04	379	179	
1967 16A		2687	US	24 FEB	89.8	106.99	353	137	
1967 17A	COSMOS 143	2693	USSR	27 FEB	89.5	64.99	390	204	
1967 17B		2694	USSR	27 FEB	89.5	64.98	294	229	
1967 18A	COSMOS 144	2695	USSR	28 FEB	96.9	61.21	636	604	

DECAYED OBJECTS

<u>OBJECT</u>	<u>CODE NAME</u>	<u>CATALOGUE NUMBER</u>	<u>SOURCE</u>	<u>LAUNCH</u>	<u>DECAY</u>
1965 20AR		1410	USSR	15 MAR	17 FEB 67
1965 20EL		2637	USSR	15 MAR	19 FEB 67
1965 82GF		1921	US	15 OCT	24 FEB 67
1965 95B		1779	USSR	26 NOV	21 FEB 67
1966 26C		2162	US	31 MAR	11 FEB 67
1966 66K		2388	US	18 JUL	26 FEB 67
1966 75D		2405	US	17 AUG	26 FEB 67
1967 01C		2641	US	11 JAN	24 FEB 67
1967 12A	COSMOS 141	2670	USSR	8 FEB	16 FEB 67
1967 12B		2672	USSR	8 FEB	16 FEB 67

FOLLOWING ARE THE INITIAL ELEMENTS OF OBJECTS WHOSE LAUNCH AND ORBIT DECAY OCCURRED WITHIN THE REPORTING PERIOD:

<u>OBJECT</u>	<u>CODE NAME</u>	<u>CATALOGUE NUMBER</u>	<u>SOURCE</u>	<u>PERIOD MINUTES</u>	<u>INCL - NATION</u>	<u>APOGEE Km.</u>	<u>PERIGEE Km.</u>	<u>TRANSMITTING FREQ. (MC/S)</u>
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NONE

*. APHELION PERIOHELION IN ASTRONOMICAL UNITS, INCLINATION ECLIPTIC.
 ** TWO HUNDRED AND TEN METAL OBJECTS HAVE BEEN IDENTIFIED AS HAVING BEEN LAUNCHED
 WITH 1961 OMICRON 1 AND 1961 OMICRON 2. OBJECTS OF THIS SERIES THAT HAVE DECAYED
 CAN BE FOUND IN THE DECAYED OBJECTS LISTS.
 *** ONE HUNDRED AND TWENTY EIGHT OBJECTS HAVE BEEN IDENTIFIED AS HAVING BEEN LAUNCHED
 WITH 1965 20A, 1965 20B AND 1965 20C. OBJECTS OF THIS SERIES THAT HAVE DECAYED
 CAN BE FOUND IN THE DECAYED OBJECTS LISTS.
 **** TWO HUNDRED AND FIFTY OBJECTS HAVE BEEN IDENTIFIED AS DEBRIS ASSOCIATED WITH
 1965 82A. OBJECTS OF THIS SERIES THAT HAVE DECAYED CAN BE FOUND IN THE DECAYED
 OBJECTS LISTS.
 ***** FOURTEEN OBJECTS HAVE BEEN IDENTIFIED AS DEBRIS ASSOCIATED WITH 1965 112A.
 \$ TRANSMITTING ON COMMAND ONLY.
 & TRANSMITTING WHEN IN SUNLIGHT ONLY.
 # NO CATALOGUE NUMBER ASSIGNED.
 \$\$ DEBRIS DISCOVERED IN ORBIT WHICH HAS NOT BEEN IDENTIFIED WITH ANY LAUNCHING
 OR COUNTRY OF ORIGIN.